

## CHAPTER V.

TRAP ROCKS OCCURRING IN ASSOCIATION WITH  
THE COAL-MEASURES.

It is our intention to present in this article a combined view of the phænomena exhibited by this class of rocks, as they occur in the English coal-fields; phænomena it is well known, of the highest interest and importance to the theoretical geologist. Although the plan we have prescribed excludes all unnecessary discussion of theoretical views, yet the generalization of scattered facts which we propose to give, cannot fail to extend and to render more solid, the true basis of theory: and we shall also find it necessary to depart, in some measure, from the rigour of our own laws, in order to illustrate the bearings of the facts we record.

It is to be observed, as a general fact, in the first place, that the coal-fields afford the first instance in descending the series, in which any of the great formations of England appear to be strikingly connected with rocks of this family; few, or no traces of them being visible in the districts occupied by the strata of more recent origin, with the exception of the beds of amygdaloidal trap said to occur in the new red sandstone near Exeter, and already described under that article; and of the prolongation of a basaltic dyke near Cleaveland, extending from the coal across the oolitic chains.

Although so generally limited in occurrence to the coal-districts, it would be hasty to infer that these trap rocks are of contemporaneous origin with the other members of the coal series. The trap occurring in the dykes which intersect the coal-measures, must obviously be of posterior origin; and the single instance of the Cleveland dyke, is sufficient to prove that, sometimes at least, the difference of age is very considerable. When the trap occurs in overlying masses, of course no certain inference as to age can be drawn; excepting that it is more recent than the rocks which it overlies; and the only case in which a probable inference of contemporaneous origin can be drawn, is when the coal-measures regularly alternate with conformable strata of trap. Even here, also, as we shall soon have occasion to perceive, the appearance of alternation is frequently only partial and delusive; and the inference, therefore, defective, if not erroneous.